

when not scared from the ground, will often deliberately clamber to some stump, or other eminence, in order to get good wing-space below its body for the first stroke in flight. The awkwardness of a leap from the level I found beautifully illustrated upon a flat piece of fresh soft snow some three inches in depth. Here, at the bird's spring, its entire form from tip of tail just to the swell of the throat, and from tip to tip of both wings, had pressed a mould some inch or two deep. This mould measured eighteen inches long and twenty inches in spread. Even the primaries of both wings were perfectly distinct, struck hard and clean. At a distance of eleven inches in front of this wing-beat the primaries had again struck into the snow, an inch in depth, as the wings met below the bird's body on the second stroke. The tips of these marks at their deepest were, I think, about four inches apart, showing that the bird normally needs an air-space below the body of almost the wing's full length. On firm ground the legs might push to this height; but on soft snow this manner of departure could hardly have been premeditated. These observations were made at Beverly Farms, Mass.—REGINALD C. ROBBINS, *Boston, Mass.*

The Passenger Pigeon.—Since the year 1871 I had not seen a Wild Pigeon until 1896, when, near the Bay of Quinte, I saw a pair. The following year in the same vicinity, I saw from four to six birds on several occasions and during the next two years I saw about the same number. The past season I had not the opportunity of observation.

In 1898 I wrote in 'The Globe,' the leading daily paper of Canada, asking any one who had seen Wild Pigeons, during recent years, to make it known. This elicited many replies through 'The Globe' and by personal letters.

There was a general agreement as to a total disappearance about 1870, continuing until 1895. A few stated they had seen an occasional bird earlier. The reports were from all parts of Ontario and Manitoba. Mr. D. C. Black, Appin, Ont., writes: "I saw nine in a wheat field near the village of Glencoe, and they are the first I have seen in twenty-five years. They did put me in mind of the olden times. When I was a boy I used to spend a great deal of my time trying to strike them with sticks. They have often taken half a day, crossing over our farm, flying very low, as they seemed to be very tired. . . . To see a few of them is to me as seeing a dear old friend."

I think we may fairly conclude that the Wild Pigeon abruptly became very rare about 1870 (it is probable there was a diminution during the previous decade), and that there has been an increase in their number in recent years.

I am not aware of any satisfactory explanation of the phenomena. It is not improbable, some epidemic disease, spreading more rapidly on account of the immense number of individuals, nearly exterminated the

species. In such a case, we might expect to see them again, in large numbers. This would be analogous to what we see in insects, *Dana's archippus* for instance.

The food supply has certainly become less. In this connection it is interesting to observe, that in the district where I have seen Wild Pigeons recently, there are some white oak trees and though they are mostly second growth, they succeed quite a forest of old oaks. There has, in this locality probably, been a continuous supply of mast. Mr. S. D. Woodruff of St. Catharines, Ont., writes, that he learned from sea captains that immense numbers of pigeons perished in the Gulf of Mexico, being exhausted by contrary winds and dense fogs. He says the experience of several ship masters was having "myriads of the pigeons alight on the vessel and rigging, and having to cast them off into the sea."—G. C. TREMAINE WARD, *Napance, Ont., Can.*

The Occurrence of the Ground Dove in Virginia.—While on a visit near Lynchburg, Campbell County, I flushed and killed a bird which upon examination proved to be this species (*Columbigallina passerina*). This is, I believe, the first instance of this kind occurring in this State. The bird was shot on November 4, 1900, and was a female in fine condition. It is now in the collection of Bertram Roberts of Washington, D. C.—PERCY W. SHUFELDT, *Washington, D. C.*

Rachitis in Young Red-shouldered Hawks.—May 26, 1900, Mr. A. H. Verrill informed me that he had that morning taken four downy young Red-shouldered Hawks (*Buteo lineatus*) from a nest near New Haven, wishing to raise them for photographic purposes. He fed them on butcher's meat, and they grew in size and weight, and juvenal plumage soon began to show. May 31 one was so weak that it was put to death, and the others seemed out-of-sorts, though gaining in size and plumage. They were unable to lift themselves to their feet, and seemed to suffer pain when handled. Their characteristic attitude was with the feet thrust forward. These symptoms increased and on June 11 two died.

In preparing them for specimens I found they showed well-marked evidence of rickets. Subcutaneous fat was present in large amounts, but the muscles were flabby and anæmic and the ligaments lax. The epiphysial cartilage was somewhat enlarged, the long bones deformed and unusually soft and flexible, and the tibiae of both birds showed subperiosteal fractures at the point where the weight of the body would come when seated. Doubtless their attempts at standing aided in causing these fractures.

As Mr. Verrill and I were at this time collecting in western Connecticut, I suggested giving the surviving hawk bird-bodies as a change in diet, thinking that possibly these young birds had been unable to assimilate the lime necessary for calcification of the bones from meat alone. Under this treatment the surviving bird improved somewhat, but died on June 15, showing on dissection a condition similar to the others.